

Jason B. Kirkland

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ENGINEERING PROFILE

Mechanical Engineering junior with hands-on experience in mechanical design, CAD modeling, prototyping, and engineering analysis. Strong interest in complex mechanical systems, high-reliability product development, and manufacturing-driven design. Proven ability to perform under demanding operational constraints through Division I athletics. Seeking a Summer 2026 mechanical engineering internship focused on product design, mechanical systems, manufacturing, or hardware development.

EDUCATION

Cornell University – College of Engineering | Ithaca, NY
BS, Mechanical Engineering, with Minor in Business

Expected May 2027

ENGINEERING PROJECT EXPERIENCE

My Portfolio: <https://cornell-mae-ug.github.io/Jason-Kirkland-Portfolio/>

Torque Wrench Design | Engineering Materials – Cornell University

- Created a 3/8-inch drive torque wrench capable of sustaining ± 600 in-lbf while producing a measurable strain-gauge output of at least 1.0 mV/V.
- Project combined analytical design, fatigue & fracture analysis, materials selection, CAD modeling, and FEM verification.
- Technologies Used: Autodesk Fusion, ANSYS, MATLAB

Multifunction Hand Tool Design & Prototype | Mechanical Design – Cornell University

- Designed, modeled, and fabricated a compact, multi-function hand tool using Fusion 360, optimizing component layout to reduce overall volume while maintaining structural integrity.
- Developed parametric CAD assemblies and iterated designs based on manufacturability and ergonomic constraints.
- Led final design review and presented functional prototype to faculty and peers.

TECHNICAL SKILLS

Mechanical Design & Analysis

- CAD Modeling & Assemblies (Autodesk Fusion 360)
- Parametric design methodologies
- Engineering drawings, tolerances, and documentation
- Design for manufacturability (DFM)

Manufacturing & Prototyping

- 3D printing
- Mechanical assembly and testing with prototypes

Programming & Engineering Tools

- Python
- MATLAB
- ANSYS

Core Engineering Knowledge

- Statics, Dynamics
- Thermodynamics
- Fluid Mechanics
- Materials Engineering Fundamentals

LEADERSHIP & PROFESSIONAL EXPERIENCE

Cornell Varsity Football – Division I Student-Athlete | Ithaca, NY

Aug 2023-Present

- Balance 20+ hours/week of Division I athletics with a rigorous Mechanical Engineering curriculum.
- Developed elite time management, accountability, and performance under pressure.
- Mentor younger teammates and contribute to team leadership culture.

Certified Lifeguard – Hurricane Harbor Water Park | Peoria, AZ

May-July 2023

- Maintained safety standards and responded to emergency situations in high-traffic aquatic environments.

Life Scout – Boy Scouts of America | Arizona

2013-2022

- Held multiple leadership roles including Patrol Leader, Assistant Patrol Leader, and Historian.
- Earned the rank of Life Scout, demonstrating long-term commitment, leadership, and service.
- Volunteered as a Den Chief, mentoring and leading younger scouts.